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Decision Making About Method of Delivery on the U.S.–Mexico Border

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Abstract

We explored how low-risk, nulliparous pregnant women and their doctors in two contiguous U.S.–Mexico border communities communicate about methods of delivery and how they perceive that the delivery method decision is made. We recruited 18 women through obstetricians in El Paso, Texas ($n = 10$), and prenatal care providers in Ciudad Juárez, Mexico ($n = 8$). We observed prenatal care visits, interviewed women prenatally and postpartum, and interviewed the El Paso obstetricians. Qualitative analysis demonstrated that birthing decisions are complex and involve multiple influences, including women's level of knowledge about birth, doctor–patient communication, and women's participation in decision making.

Despite recommendations by the World Health Organization (Appropriate technology for birth, 1985), many regions of the world have experienced a sharp increase in cesarean delivery during the past two decades (Betran et al., 2007). Unnecessary cesarean birth has been linked to pregnancy-associated morbidity and mortality, especially among repeat cesarean births (American College of Obstetricians and Gynecologists [ACOG], 2013). Because over 90% of women in the United States who have had a previous cesarean birth

will have a cesarean section in subsequent births (Menacker, Declercq, & Macdorman, 2006), preventing the first cesarean birth is critical. In this study we explored how nulliparous pregnant women and their doctors in one pair of contiguous U.S.–Mexico border cities communicated and made decisions about the final method of delivery. Such information could inform efforts to reduce nonmedically indicated cesarean birth among first-time mothers in this region and elsewhere.

The U.S.–Mexico border region, which includes 44 U.S. counties and 80 Mexican municipalities, has high rates of cesarean birth relative to U.S. rates overall (March of Dimes, 2011; McDonald et al., 2008). In 2009, the proportions of cesarean births among Hispanics in U.S. border communities and U.S. Hispanics overall were 37.9% and 31.6%, respectively (McDonald, Mojarro, Sutton, & Ventura, 2013). In Mexico, the prevalence of cesarean birth is higher than in the United States, and rates along the border (43.1% in 2009) are similar to rates in Mexico overall (44.5% in 2009; McDonald et al., 2013). The proportions of cesarean births for primiparous U.S. Hispanic and Mexican women in border communities are comparable to those for all women giving birth in border communities (McDonald et al., 2013).

While cesarean birth can reduce adverse pregnancy outcomes for mothers and infants when medically indicated (Simpson, 2012), elective cesarean delivery can also increase pregnancy-associated morbidity and mortality (ACOG, 2013; Declercq et al., 2007; Liston, Allen, O'Connell, & Jangaard, 2008; Liu et al., 2007). Many factors, such as physicians' fear of malpractice suits (Dubay, Kaestner, & Waidmann, 1999), maternal risk factors (Kaiser & Kirby, 2001), use of labor induction or augmentation (Cammu, Martens, Ruysinck, & Amy, 2002; Main et al., 2012), and maternal requests for cesarean delivery (Mazzoni et al., 2011), have been explored for their potential contributions to rising cesarean rates.

In our study, we focus on nulliparous women in late stages of pregnancy with no known risk factors or plans for a cesarean birth in order to learn more about how final delivery decisions are made among these women and their doctors. Such information could inform efforts to reduce nonmedically indicated cesarean birth among first-time mothers internationally.

METHODS

We used qualitative research methods to explore how method of delivery decisions among low-risk primigravidas in late stages of pregnancy in the sister cities of El Paso, Texas, and Ciudad Juárez, Chihuahua, were made. We observed prenatal care visits, conducted semistructured in-depth interviews (IDIs) with women during the prenatal and postpartum periods, and conducted brief structured interviews with the El Paso women's obstetricians. All participants gave their informed consent. Data were collected between May 7, 2012, and August 10, 2012, in El Paso and Ciudad Juárez. The study protocol was evaluated by Emory University and the Centers for Disease Control and Prevention for human subjects concerns and determined to be exempt from Institutional Review Board review.

Recruitment

A nonprobabilistic, purposive sampling approach was used on both sides of the border, whereby we selected participants according to criteria relevant to our study objective (Guest, Bunce, & Johnson, 2006). Eligible women were nulliparous, at least 32 weeks pregnant without medical risk factors for cesarean section, and had no plans for elective cesarean section, as determined by the obstetricians in El Paso and medical residents in Ciudad Juárez. We recruited women from the city where they were receiving their prenatal care, regardless of city of primary residence, with the intention of reporting results for the group as a whole rather than making comparisons between the two groups.

In El Paso, we contacted centrally located obstetricians and asked them to participate in the study. We asked those who agreed to identify eligible patients. The obstetricians then referred these women to the study interviewer, who provided additional information and arranged the prenatal care observations and first IDIs. Each prenatal IDI took place in a private location at the obstetrician's office immediately following the prenatal care visit. Postpartum IDIs with study participants were held in mutually convenient locations, and postpartum interviews with the obstetricians took place in each obstetrician's office.

In Ciudad Juárez, we worked with liaison staff at two large public hospitals under the jurisdiction of the social security system (Instituto Mexicano del Seguro Social [IMSS]) and the Secretariat of Health to identify medical residents who were responsible for providing prenatal care at each hospital. Through these residents, we identified patients who met study eligibility criteria and invited them to participate in the study. The interviewer arranged prenatal IDIs with these women, which took place in private examination rooms in the hospitals. The interviewer observed prenatal care visits a few weeks after the prenatal IDI and conducted postpartum IDIs in the hospital after the women delivered. We attempted to follow up directly by phone and through the medical residents with women we missed postpartum.

Sample and Data Collection

In El Paso, we recruited 10 women, 16–40 years of age, through five participating obstetricians. The women delivered at four El Paso hospitals: three private and one public. We observed prenatal care visits for nine of the women, conducted prenatal IDIs with all 10, and conducted post-partum IDIs with eight. Additionally, after eight of the births, we conducted brief, structured interviews with the obstetricians. We learned the birth outcomes for nine of the 10 women through interviews with the women, their obstetricians, or both (see Table 1).

In Ciudad Juárez, we recruited eight women, 15–33 years of age. We observed prenatal care visits for two of the women, conducted prenatal IDIs with all eight, and conducted postpartum IDIs with two. We learned the birth outcomes for seven of the eight women through interviews with the women or through follow-up with the medical residents (see Table 1).

A single bilingual investigator conducted all observations and interviews. All of the interviews in Mexico and interviews with two of the women in El Paso were completed in

Spanish. During the prenatal care observations, we noted the length of the visit, whether or not others were present, and dialogue between women and their doctors. During the prenatal IDIs, we asked women about their sources of information regarding the birth process, desires for labor and delivery, and expectations about how birthing decisions would be made. During the postpartum IDIs with women, we asked about the events that occurred during labor and delivery, such as induction of labor and other medical interventions performed, how birthing decisions were made, with whom the women communicated in the hospital, and how they felt about the events that occurred. During the interviews with doctors, we asked about the factors that influenced each patient's method of delivery.

Data Management and Analysis

We audio-recorded the interviews and transcribed them verbatim in their original language. We reviewed and transcribed observation notes within 24 hours of the observation event. We deidentified all data and assigned each study participant a unique alpha-numeric code. Using standard qualitative data analysis techniques (Babbie, 2007), and MaxQDA version 10 software (VERBI, Berlin, Germany), we reviewed interview transcripts, observation notes, and investigator-derived memos written after initial review of the materials. Interview transcripts and observation notes were coded according to seven topics of interest: women's sources of information, anticipated delivery method, labor induction, labor augmentation, patient–doctor communication, women's participation in delivery method decision making, and barriers to women's participation in delivery method decision making. We reviewed the coded text and identified emerging themes. We reached saturation (Guest et al., 2006), the point after which no new themes were observed in the data, after reviewing all available data associated with the first eight women (two in Mexico and six in the United States).

RESULTS

Three of the 18 women in this study (two in the United States and one in Mexico) had a cesarean delivery, 13 (seven in the United States and six in Mexico) had a vaginal delivery, and two (one in the United States and one in Mexico) were lost to follow-up (see Figure 1). Among the 10 women with whom we conducted both prenatal and postpartum IDIs, six (five in the United States and one in Mexico) had their labor medically induced and four (three in the United States and one in Mexico) had their labor augmented. Themes that emerged from reviews of the data are described below, according to a-priori study topics. Data are presented for all 18 women and the five obstetricians who participated. We translated Spanish language to English for the purposes of research dissemination.

Women's Sources of Information

Study women said that they learned about labor and delivery mostly from important women in their lives, their doctor, and childbirth classes.

Important women—All of the participants mentioned hearing about the experience of giving birth from their mothers, sisters, aunts, and friends. They reported high levels of trust in these women and what these women told them. In responding to questions such as “Why do some women have cesarean sections?” or “Why do some women have their labor

induced?” most of the participants told stories of a friend's or relative's cesarean delivery or induction. The stories that participants recounted tended to be negative experiences of other women, such as failed inductions that resulted in cesarean sections and long recoveries after cesarean deliveries. These stories appeared to have shaped the participants' perspectives as they anticipated their own delivery.

Doctors—Some participants named their doctor as a source of information about method of delivery during the prenatal period. Although doctors were usually considered secondary to important women in the participants' lives as a source of information, several study women said that they learned about some medical indications for cesarean delivery from their doctor.

Childbirth classes—Childbirth classes were an important source of information for the four study women who participated in them. They valued learning about what to expect during pregnancy, what to expect during labor and delivery, breastfeeding, and other topics. Some study women who did not attend a childbirth class said that they would have liked to have learned more before the onset of labor, but they were not able to attend classes because of financial or time constraints.

Anticipated Delivery Method

Women and their providers demonstrated a strong preference for vaginal deliveries.

Women's preference for a vaginal delivery—In the prenatal care IDIs, all study women said they were planning to have a vaginal delivery, and all but one preferred to have a vaginal delivery. One woman in Ciudad Juárez said that she desired a cesarean section to avoid a painful vaginal delivery but that she was still planning on having a vaginal delivery because she did not think she could request a surgical delivery from her doctor. Two women, both in El Paso, said they preferred a vaginal delivery because cesarean sections are more expensive, even with health insurance. Most of the other participants said their desire was based on hearing from other women that the recovery after a cesarean delivery is longer than for a vaginal delivery. Others said they felt that having a vaginal delivery was more natural than having a cesarean section.

Obstetricians' preference for a vaginal delivery—The obstetricians expressed that vaginal deliveries are the standard for which they strive. As one doctor explained, “That's the normal way women deliver.” Another doctor responded to a question about which factors influenced the mode of delivery for a study participant:

She's a younger Mom and had not really many high-risk factors, a normal-sized baby, and was motivated. Vaginal delivery was our goal. Our first goal is healthy Mom and a healthy baby. After that, vaginal deliveries are second. ... It would make her next pregnancy less complicated ... make her recovery faster ... help mature the baby's lungs.

A third doctor responded to the same question:

She was a term pregnancy, the head was coming out first, she came to the hospital in labor ... and she dilated completely. ... I'd say the main thing when they're in labor is how's the fetus tolerating the contractions and ... can we achieve dilation?

Labor Induction

Although all study women during the prenatal period anticipated that their labor would begin spontaneously, they also believed that medical induction is sometimes necessary. They viewed induction as a medical decision made primarily by doctors as a way to mitigate risks to mothers and babies. In the prenatal interviews, however, women said that if an induction was necessary, they expected their doctor to communicate with them about why. Interviews with the obstetricians provided additional information about why they induced study participants.

Women expect their doctors to communicate with them—During the observation of a prenatal care visit at 39 weeks with a woman in El Paso, the doctor recommended that labor be induced that same day, explaining that there was an increased risk of stillbirth as gestational age approached 40 weeks. The doctor spent more than 30 minutes with the woman and her husband describing what would happen from the moment the woman entered the hospital until her delivery. During the prenatal interview that we conducted, the woman said that she had a lot of confidence in her doctor and, as a result, would take the doctor's advice and go directly from the doctor's office to the hospital for an induction of labor.

In a postpartum IDI, another El Paso woman described the conversation she had with her obstetrician regarding her induction of labor:

[The doctor] told me that I was already 41 weeks and that they wanted to schedule me for an induction, which is something I didn't want, but [the doctor] said it had already been too long. [The doctor] told me that the placenta was aging, and I would put my baby at risk, waiting longer, but my baby looked healthy but [the doctor] said it wasn't worth the risk for waiting for so long. So, I told [the doctor], you know, "It's fine, I guess we'll do the induction." And then I went to [the doctor] the Thursday, when I was exactly 41 weeks. They set up the induction for Sunday, which was I guess 3 days after that.

A few women noted in the postpartum interview that the decision to induce labor was made solely by the doctor, and that they were not at all involved in the process. For example, one participant in El Paso recounted the decision this way:

Interviewer: So how did you know to go to the hospital?

Participant: [My doctor] told me when to go. Since [my doctor] was gonna induce me, they told me, "Be at the hospital on the 23rd at 10 o'clock and we'll start the process."

Interviewer: Do you know why [your doctor] decided to do the induction?

Participant: No, I don't. I don't. To this day, I still don't know why.

Obstetricians identify many reasons to induce labor—Interviews with the obstetricians revealed a variety of reasons for inducing labor. One doctor was scheduled to be out of town the week the study participant was due to deliver and so gave the woman the option of planning an induction of labor the week before. Another doctor explained the process of deciding to induce the study participant whose prenatal care observation was discussed earlier in this way:

She had a favorable cervix and decreased fetal movement. And she was past 39 weeks. ... The stillbirth rate doubles from 38 to 40 weeks. Although uncommon, you know, it's still present, and an important factor.

Labor Augmentation

We did not specifically ask women about labor augmentation. During the postpartum interviews, however, women reported the decision to augment labor as a medical decision made solely by their obstetricians and we therefore asked the delivering obstetricians why the augmentation took place.

Women's participation is minimal—Each of the four women we interviewed postpartum whose labor was augmented said that the nursing staff communicated regularly with the delivering obstetrician during their labor and relayed messages from the obstetrician back to them. This is exemplified by one interview with a woman in El Paso:

Interviewer: And you said you had IVs?

Participant: Yeah, just the fluids and the Pitocin ... so you can contract more. ... They wanted them every 2 minutes, and mine were between 2 and 9 minutes, so they wanted them closer together.

Interviewer: Did your water ever break?

Participant: No, they had to rupture it. They used some hook or something.

Interviewer: ...And who was communicating with you about this stuff?

Participant: ...The nurse tells you a lot of stuff. ... She's like, "I talked to [your doctor]. They said that we need to break your water." So she did that.

Obstetricians identify many reasons to augment labor—A doctor explained the decision to augment labor for one of the study women:

She came in having contractions, we admitted her, we looked at the monitor, and we said, "You know, the contractions aren't really quite as frequent ... as they could be to ... make things progress. We're gonna put a little Pitocin in the IV to make them a little bit more frequent." Then, as long as she's progressing, we may want to leave the water bag intact. There are lots of reasons why you would break the water. One of them is to ... make things move along. ... If the patient comes in in the middle of the night, I may want to leave the water bag intact because I may want to do my delivery in the morning instead of doing it at night and that can slow down things a little bit. ... If the fetal heart rate was in question ... that would be a reason to break the water bag so that you can put in internal monitors. ... But she

came in in labor, we gave her some Pitocin to kind of keep the contractions at a nice pace ... fetal tracing was fine, there wasn't really any need to break the water until we got towards the end.

Patient–Doctor Communication

Our observations and interviews with women demonstrated that communication between women and their doctors was an important factor in establishing a trusting relationship.

Value of trust—A few women interviewed in El Paso said they had good communication with their providers, as one El Paso participant who resided in Ciudad Juárez explained:

I have a lot of trust in the doctor. ... Therefore, when I went to the doctor, I asked my questions.

Many women mentioned, however, that their prenatal care appointments were very brief. Several said that their doctors listened to their concerns and answered their questions, but they did not provide as much information as they would have liked, leading the women to rely more on other sources of information about the birth process. The following excerpt is from a prenatal interview in El Paso:

Interviewer: Has [your doctor] given you any information about delivery specifically?

Participant: Yeah, they gave me pamphlets. ... They just say to read it over and if you have any questions to ask them.

Women's Participation in Delivery Method Decision Making

In the prenatal care interviews, all the women said that there may be circumstances in which the doctor would decide that a cesarean section was necessary. In the absence of a medical emergency, however, women wanted to participate in the decision about their own method of delivery. Some women, especially those who were most knowledgeable about the birth process, participated by advocating for a vaginal delivery and taking advantage of a supportive medical team. Women assessed their labor and delivery experience according to their participation in key decisions.

Women advocating for vaginal deliveries—In the prenatal interview, when discussing the possibility of having a cesarean section, several women expressed a desire to talk to their doctors about trying harder or waiting longer for a vaginal delivery. For example, one woman in El Paso responded to a question about how the decision-making process for a cesarean section might occur:

[My doctor] coming to us, my husband and I, and saying, ... “This is happening, so I recommend a C-section because of this risk.” And I probably would ask if I can try harder or if we can wait a little bit or ... how the conditions would need to change in order not to have the C-section, and see if those are plausible or not. And if not, then just proceed.

In addition to self-advocating for a vaginal birth, through asking to try harder or wait longer during labor, a few participants also noted the importance of having a birth plan in writing for their delivery team. One participant in El Paso recounted why she selected her obstetrician:

I talked to the doctor about wanting to have a natural birth and so [the doctor] said, “Prepare your birth plan and I’ll try to follow your instructions or your wishes as much as possible.” So that’s why I stayed with [that doctor].

Support from the labor and delivery team—Several participants highlighted the role of their labor and delivery team in supporting them in their desire to have a vaginal delivery, as an El Paso participant explained:

[My doctor] was completely supportive of my decision to do it vaginally. [The doctor] came in and [the nurse] was like. “She’s not pushing well enough and I told her if she doesn’t push, then we’re gonna have to do a C-section.” And [the doctor] was like, “That’s not what she wants. ... If she wants to have her vaginally and it takes us ... time to get the baby out, it doesn’t matter. We’re gonna do what she wants to do because that’s what’s gonna make her comfortable.” So [my doctor] completely supported my decision to have her vaginally. ... If you know you wanna have the baby vaginally, and they tell you you can’t, don’t listen to them. ... Tell them, “No, I don’t want that.” And hopefully you have a supportive doctor like mine.

Similarly, a woman in El Paso highlighted the role of hospital staff, especially the labor and delivery nurses, in helping her achieve her birthing goals:

I had dilated to 10 centimeters, but they said that the baby didn’t come down. And so they said we have to wait. ... By 6 pm, [my] doctor came and said that the baby hadn’t come down, and so they had to do a C-section. And I didn’t want a C-section, so I asked ... “Can we try like another half an hour and see if we make progress?” And doctor was okay with that, so [the doctor] left and then I worked with the nurses again. And when doctor came back, [the doctor] said that yeah, it was good, we could have vaginal delivery. But then there was a problem `cause there was something that was obstructing the baby’s path ... my urethra. And so, [the doctor] ... walked out the room and there was a urologist that was just walking down. ... He checked me and he said, “Yes, it’s the urethra that is coming first, then the baby.” And he said it wasn’t good. But then the nurse said that if she could hold it and push ... it in while I was pushing for the baby to come out, and doctor said, “Yeah, it could work...” So that’s what we did.

Some study women did not feel supported by their labor and delivery staff. One El Paso woman, who had a cesarean section performed over the weekend by her obstetrician’s practice partner because her medical induction had failed and her own obstetrician was not on-call, explained:

Participant: I never saw [the delivering doctor] until ... [the delivering doctor] was like already ready to open me, I didn’t see [the delivering doctor] at all. [The

delivering doctor] didn't tell me anything. ... It was somebody else around. I never saw [the delivering doctor], and when I woke up, I never saw [the delivering doctor] either.

Interviewer: So you never talked to [the delivering doctor]?

Participant: No, until the day after, [my doctor] came. But [the delivering doctor], no. She just said, "Oh, I'm [the delivering doctor], I'm covering for [your doctor] and I'm gonna do a C-section." That's all.

Interviewer: So who told you that they were going to do a C-section?

Participant: The nurses. ... At the beginning they just told me, like the one that came for me to sign [the consent form]. She just told me, "I'm just going to make you sign it in case we need it." She never told me, like, "Oh, we're gonna do it right now." No, she just told me, "In case you need it [a cesarean delivery]." And then I signed it and then another one came in and, "Oh we're gonna take you in." So they didn't really tell me.

Women's assessment of their experience may be influenced by their level of participation—In the postpartum interviews, the women who said that they felt they were part of the decision regarding their delivery method also said that they were very pleased with their delivery team and with their experience in general. On the other hand, some of the women who said that they did not feel part of the process expressed a dislike for the hospital, the nurses, and the doctor. Several of these participants noted that they would seek out a new obstetrician for their next pregnancy. One woman in Ciudad Juárez, whose labor was medically induced on two occasions during the course of 3 days and whose delivery was assisted by forceps, said that although she had desired a vaginal delivery, this would not be her desire for her next pregnancy. An illustration of this comes from her postpartum IDI:

Interviewer: If you have another child, is there anything you'd like to be different about your labor and delivery?

Participant: Cesarean, so I'm not there struggling.

Interviewer: What advice would you offer other women pregnant for the first time about labor and delivery?

Participant: That they ask for a cesarean.

Barriers to Women's Participation in Delivery Method Decision Making

We did not specifically ask women about barriers to participating in the decision about their own method of delivery. Limited access to childbirth classes and the structure of prenatal care visits, however, emerged as factors that may have prevented women from being informed about the birthing process and therefore from participating in decision making.

Limited access to childbirth classes—A few study women in both Ciudad Juárez and El Paso noted that cost was a barrier for them to take childbirth classes; either the classes themselves were too expensive or the associated costs, such as transportation or having to

miss work, were too burdensome. Some women also said that the classes offered at their delivery hospital took place at inconvenient times.

Structure of prenatal care visits—Women in El Paso and Ciudad Juárez wanted to be involved in decisions about their own method of delivery. Because prenatal care visits were usually brief, however, women did not learn a lot about delivery decisions from their doctors before the onset of labor. Additionally, among women receiving care in Ciudad Juárez, lack of privacy during the prenatal care visits was another barrier to asking questions of their providers. These structural barriers are exemplified by an interview with a woman in Ciudad Juárez:

Participant: When I'm here, the maximum they [the appointments] last is 5 minutes. ... They check me and listen to my son's heart and all and that's it. All they do is tell me when my next appointment is and my doctor asks if I have questions and that's it.

Interviewer: And do you have sufficient time to ask your doctor the questions you have?

Participant: Yes, I have time, but, since you're always only with males, I never get the courage to ask them things.

Interviewer: Normally, how many other people are in the room?

Participant: There are, apart from the doctor, there are, like, three more people.

DISCUSSION

This is the first study to examine issues surrounding type of delivery and related decision making in the U.S.–Mexico border region from the perspectives of women and their doctors. One previous study that examined women's perspectives on delivery in the United States found that 63% of mothers with primary cesareans felt that the doctor was the decisionmaker (Declercq, Sakala, Corry, Applebaum, & Herrlich, 2013); however, the proportion of border women who feel similarly is unknown. In addition, interviewing women before and after they delivered, observing a prenatal care visit, and interviewing obstetricians after delivery allowed us to learn more about decision making than would have been possible from retrospective interviews alone. Further, interviewing low-risk, nulliparous women who were planning to have a vaginal delivery helped us gain valuable information about decision making immediately before and during labor and to better understand why some women have a cesarean delivery despite having planned on a vaginal delivery.

The importance of having trust and confidence in a friend or relative, doctor, and oneself during pregnancy, labor, and delivery was evident across all topics explored in our analysis. The women in our study considered their most important source of information regarding the birthing process to be their close female relatives and friends. Most women planned to have a vaginal delivery because of what they had learned about the birth experience of their relatives and friends. Women also mentioned their level of trust and confidence in their doctor and how this ultimately impacted events during their delivery. Similarly, the women

who seemed confident in their birthing desires and who were most well-informed about the birthing process were also the most motivated to participate in decisions through actions such as developing a birth plan and asking for additional time during labor to avoid a cesarean section.

All of the women we interviewed postpartum received Pitocin during their labor. These results are consistent with the high proportion of women who received Pitocin in a hospital-based study in El Paso (Fullerton, Nelson, Shannon, & Bader, 2004) and rising trends in Pitocin use during labor in the United States (Declercq et al., 2013). There is evidence that increased use of labor induction or augmentation techniques may contribute to rising cesarean delivery rates (Cammu et al., 2002; Seyb, Berka, Socol, & Dooley, 1999; Vrouenraets et al., 2005). The women in our study, however, were less actively involved in decisions related to induction or augmentation than they were in decisions about method of delivery. Although all of the women in our study received Pitocin, relatively few had cesarean deliveries. It is possible that the study women were more knowledgeable about method of delivery than they were about induction/augmentation and thus were able to communicate better with their doctors about their method of delivery preferences. Quantitative studies that include measures of patient–doctor communication throughout pregnancy are needed to explore this topic beyond the 18 participants we studied (ACOG, 2014).

Reducing the number of cesarean deliveries among primigravidas is a strategic approach to reducing the overall cesarean utilization rate (Barber et al., 2011; Gamble, Creedy, McCourt, Weaver, & Beake, 2007), and it is in line with the Joint Commission performance measurement requirements for accreditation (Zhani, 2012). Evidence suggests, however, that a multifaceted intervention may be necessary (Main et al., 2012). Themes that emerged from this research offer two components that future interventions to reduce cesarean delivery rates in the U.S.–Mexico border region might consider incorporating. First, interventions may benefit from the inclusion of childbirth education classes led by *promotoras*, or female lay community health workers (Koskan, Hilfinger Messias, Friedman, Brandt, & Walsemann, 2012), or nurses, with self-advocacy training such as that from Lamaze International (www.lamaze.org). This addresses the desire of the women in our study to attend childbirth classes, and it is also aligned with literature from Mexico about the need for women to be better informed about childbirth so they can more fully participate in decision making (Campero et al., 2007; Gomez-Dantes, 2004). *Promotoras* are prevalent and valued in border communities (Reinschmidt et al., 2006), and they may be able to work with primigravidas and their families to enhance knowledge of labor and delivery and skills to communicate birthing desires to obstetricians. Women may feel more comfortable asking questions of a *promotora* than a medical doctor, and the classes may empower and motivate women to participate more in their maternity care. In our study, the women who self-advocated and asked questions during their labor and delivery may have avoided cesarean deliveries associated with more subjective medical indications, such as arrest of dilation or arrest of descent (Barber et al., 2011).

Second, successful interventions may include periodic scientific training for busy obstetricians and medical staff on labor and delivery (Main et al., 2012). Women in our

study relied on the expertise of their medical providers. Practitioners, including doctors, nurses, and midwives, who stay up-to-date on the literature regarding cesarean deliveries may provide more accurate information to women; binational continuing education may keep practitioners well-informed and augment independent reading of professional journals. Several authors have suggested the use of continuing education for providers as a way to reduce cesarean delivery rates (Klein, 2012; Klein et al., 2011; Main et al., 2012; Poma, 1998), and this intervention has been successful in other areas, such as reducing episiotomies (Goldberg et al., 2006). As part of a multifaceted intervention, professional continuing education in a binational setting may provide an opportunity to ensure that practitioners stay current about the maternal and fetal benefits of vaginal delivery.

This study has several limitations. Our study design, which involved recruiting El Paso study women and their obstetricians prenatally, was difficult to implement in Ciudad Juárez, where obstetricians in the public sector do not usually provide prenatal care (Secretaría de Salud, 2008). Thus, we were unable to assess the level of communication and trust between study women in Ciudad Juárez and their delivering obstetricians. Additionally, our study included a small number of women. Although we conducted prenatal interviews with 18 women, we conducted postpartum interviews with only 10 and lost two women to follow-up. Guest and colleagues (2006) posit that saturation occurs after analyzing 6–12 interviews from a relatively homogeneous group of study subjects, such as those in our study. We reached saturation in our analysis after reviewing all data for eight study participants. Additional El Paso interviews would not likely have changed our results, although more postpartum interviews with women and their obstetricians in Ciudad Juárez may have further enriched our findings. As with all qualitative studies, our results are not generalizable beyond the study population, although they may offer important information for public health professionals in other settings.

CONCLUSION

Our study results demonstrate that delivery method decisions can be complex and involve multiple influences, including women's level of knowledge about birth, doctor–patient communication, and women's participation in decision making. We observed that women who were able to clearly communicate to their doctor their desire for a vaginal delivery were able to avoid a cesarean section. These findings may be useful to public health professionals who are developing interventions to reduce primary cesarean deliveries.

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REFERENCES

- American College of Obstetricians and Gynecologists (ACOG). Committee opinion no. 559: Cesarean delivery on maternal request. *Obstetrics & Gynecology*. 2013; 121:904–907. 2013. [PubMed: 23635708]
- American College of Obstetricians and Gynecologists (ACOG). Committee opinion no. 587: Effective patient–physician communication. *Obstetrics & Gynecology*. 2014; 123(2 Pt 1):389–393. 2014. [PubMed: 24451677]
- Appropriate technology for birth. *Lancet*. 1985; 2(8452):436–437. [PubMed: 2863457]
- Babbie, E. The practice of social research. 11th ed.. Thomson Wadsworth; Belmont, CA: 2007.
- Barber EL, Lundsberg LS, Belanger K, Pettker CM, Funai EF, Illuzzi JL. Indications contributing to the increasing cesarean delivery rate. *Obstetrics & Gynecology*. 2011; 118(1):29–38. [PubMed: 21646928]
- Betran AP, Merialdi M, Lauer JA, Bing-Shun W, Thomas J, Van Look P, Wagner M. Rates of caesarean section: Analysis of global, regional and national estimates. *Paediatric and Perinatal Epidemiology*. 2007; 21(2):98–113. [PubMed: 17302638]
- Cammu H, Martens G, Ruysinck G, Amy JJ. Outcome after elective labor induction in nulliparous women: A matched cohort study. *American Journal of Obstetrics and Gynecology*. 2002; 681:240–244. [PubMed: 11854642]
- Campero L, Hernandez B, Leyva A, Estrada F, Osborne J, Morales S. Trends in caesarean sections associated with non-clinical factors in a Birthing Educational Center in Mexico City. *Salud Publica de Mexico*. 2007; 49:118–125. [PubMed: 17522738]
- Declercq E, Barger M, Cabral HJ, Evans SR, Kotelchuck M, Simon C, Heffner LJ. Maternal outcomes associated with planned primary cesarean births compared with planned vaginal births. *Obstetrics & Gynecology*. 2007; 109:669–677. [PubMed: 17329519]
- Declercq, E.; Sakala, C.; Corry, MP.; Applebaum, S.; Herrlich, A. Listening to mothers III: Report of the Third National U.S. Survey of Women's Childbearing Experiences. Childbirth Connection; New York, NY: 2013.
- Dubay L, Kaestner R, Waidmann T. The impact of malpractice fears on cesarean section rates. *Journal of Health Economics*. 1999; 18:491–522. [PubMed: 10539619]
- Fullerton JT, Nelson C, Shannon R, Bader J. Prenatal care in the Paso del Norte border region. *Journal of Perinatology*. 2004; 24(2):62–71. [PubMed: 14762448]
- Gamble J, Creedy DK, McCourt C, Weaver J, Beake S. A critique of the literature on women's request for cesarean section. *Birth*. 2007; 34:331–340. [PubMed: 18021149]
- Goldberg J, Purfield P, Roberts N, Lupinacci P, Fagan M, Hyslop T. The Philadelphia Episiotomy Intervention Study. *Journal of Reproductive Medicine*. 2006; 51:603–609. [PubMed: 16967628]
- Gomez-Dantes O. Lucina's kidnap (or how to stop the cesarean section epidemic). *Salud Publica de Mexico*. 2004; 46(1):71–74. [PubMed: 15053399]
- Guest G, Bunce A, Johnson L. How many interviews are enough? An experiment with data saturation and variability. *Field Methods*. 2006; 18(1):59–82.
- Kaiser PS, Kirby RS. Obesity as a risk factor for cesarean in a low-risk population. *Obstetrics & Gynecology*. 2001; 97(1):39–43. [PubMed: 11152904]
- Klein MC. Cesarean section on maternal request: A societal and professional failure and symptom of a much larger problem. *Birth*. 2012; 39:305–310. [PubMed: 23281950]
- Klein MC, Kaczorowski J, Tomkinson J, Hearps S, Baradaran N, Brant R. Family physicians who provide intrapartum care and those who do not: Very different ways of viewing childbirth. *Canadian Family Physician*. 2011; 57(4):e139–147. [PubMed: 21490345]
- Koskan AM, Hilfinger Messias DK, Friedman DB, Brandt HM, Walsemann KM. Program planners' perspectives of promotor roles, recruitment, and selection. *Ethnicity and Health*. 2012; 18:262–279. [PubMed: 23039847]
- Liston FA, Allen VM, O'Connell CM, Jangaard KA. Neonatal outcomes with cesarean delivery at term. *Archives of Disease in Childhood. Fetal and Neonatal Edition*. 2008; 93(3):F176–182. [PubMed: 17942582]

- Liu S, Liston RM, Joseph KS, Heaman M, Sauve R, Kramer MS. Maternal mortality and severe morbidity associated with low-risk planned cesarean delivery versus planned vaginal delivery at term. *Canadian Medical Association Journal*. 2007; 176:455–460. [PubMed: 17296957]
- Main EK, Morton CH, Melsop K, Hopkins D, Giuliani G, Gould JB. Creating a public agenda for maternity safety and quality in cesarean delivery. *Obstetrics & Gynecology*. 2012; 120:1194–1198. [PubMed: 23090538]
- March of Dimes. Maternal and infant health profile: United States/Mexico border region. *Peristats*. 2011. Retrieved from <http://www.marchofdimes.org/Peristats/pdfdocs/BRP/99BRP.pdf>
- Mazzoni A, Althabe F, Liu NH, Bonotti AM, Gibbons L, Sanchez AJ, Belizan JM. Women's preference for caesarean section: A systematic review and meta-analysis of observational studies. *BJOG: An International Journal of Obstetrics and Gynaecology*. 2011; 118:391–399. [PubMed: 21134103]
- McDonald JA, Johnson CH, Smith R, Folger SG, Chavez AL, Mishra N, Villalobos SA. Reproductive health surveillance in the US-Mexico border region, 2003–2006: The Brownsville-Matamoros Sister City Project for Women's Health. *Preventing Chronic Disease*. 2008; 5(4):A126. [PubMed: 18793514]
- McDonald JA, Mojarro O, Sutton PD, Ventura SJ. A binational overview of reproductive health outcomes among US Hispanic and Mexican women in the border region. *Preventing Chronic Disease*. 2013; 10:E137. [PubMed: 23948338]
- Menacker F, Declercq E, Macdorman MF. Cesarean delivery: Background, trends, and epidemiology. *Seminars in Perinatology*. 2006; 30:235–241. [PubMed: 17011392]
- Poma PA. Effect of departmental policies on cesarean delivery rates: A community hospital experience. *Obstetrics & Gynecology*. 1998; 91:1013–1018. [PubMed: 9611015]
- Reinschmidt KM, Hunter JB, Fernandez ML, Lacy-Martinez CR, Guernsey de Zapien J, Meister J. Understanding the success of promotoras in increasing chronic diseases screening. *Journal of Health Care for the Poor and Underserved*. 2006; 17:256–264. [PubMed: 16702713]
- Secretaría de Salud. Clinical practice guideline: Prenatal risk assessment. Author; México, D.F.: 2008.
- Seyb ST, Berka RJ, Socol ML, Dooley SL. Risk of cesarean delivery with elective induction of labor at term in nulliparous women. *Obstetrics & Gynecology*. 1999; 94:600–607. [PubMed: 10511367]
- Simpson LL. When is primary cesarean appropriate: Fetal indications. *Seminars in Perinatology*. 2012; 36:328–335. [PubMed: 23009964]
- Vrouenraets FP, Roumen FJ, Dehing CJ, van den Akker ES, Aarts MJ, Scheve EJ. Bishop score and risk of cesarean delivery after induction of labor in nulliparous women. *Obstetrics & Gynecology*. 2005; 105:690–697. [PubMed: 15802392]
- Zhani, EE. The Joint Commission expands performance measurement requirements. 2012. Retrieved from http://www.jointcommission.org/the_joint_commission_expands_performance_measurement_requirements/

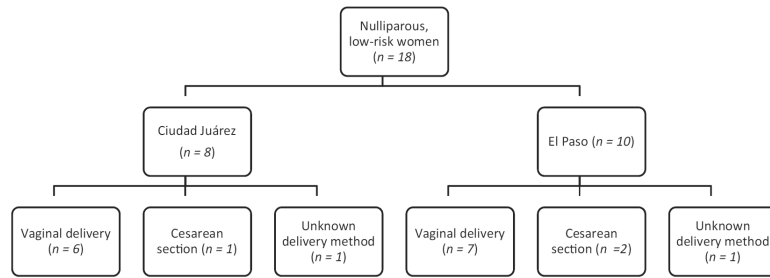


FIGURE 1.
Summary of delivery method outcomes.

TABLE 1

Summary of Observations and Interviews

City	Prenatal interviews	Prenatal observations	Postpartum interviews	OB interviews
El Paso	10	9	8	8
Ciudad Juárez	8	2	2	0
Total	18	11	10	8